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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,578	02/23/2005	Ronald Joseph Antonius Van Den Oetelaar	NL 020839	4874

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
KLIMOWICZ, WILLIAM JOSEPH	
ART UNIT	PAPER NUMBER
2627	
MAIL DATE	DELIVERY MODE
08/28/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/525,578	VAN DEN OETELAAR ET AL.	
	Examiner	Art Unit	
	William J. Klimowicz	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☒ Claim(s) *10* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

The disclosure is objected to because of the following informalities:

(i) With regard to page 1, line 3 of paragraph [0001], the "dot" after the word "wavelength" should be replaced by the symbol for "wavelength," i.e., -- λ --.

Additionally, the newly submitted substitute specification should be carefully reviewed to replace the "dot" with the appropriate number or symbol throughout the specification (e.g., see page 5 (lines 4, 7, 10, 22, 23), page 10, line 25, etc.

Appropriate correction is required.

Objection to Abstract

With regard to line 2 of the Abstract, the "dot" after the word wavelength, should be replaced by the symbol for "wavelength," i.e., -- λ --.

With regard to line 15 of the Abstract, the "dot" after the number "0.15" should be replaced by the symbol for "wavelength," i.e., -- λ --.

Additionally, the abstract of the disclosure is objected to because its length exceeds 150 words (the current abstract contains 208 words according to an MS Word Count). . See MPEP 608.01(b), which cites 37 CFR 1.72 (b), and states:

> A brief abstract of the technical disclosure in the specification must commence on a separate sheet, preferably following the claims, under the heading "Abstract " or "Abstract of the Disclosure." The ***abstract*** in an application filed

under 35 U.S.C. 111 ***may not exceed 150 words in length***. The purpose of the abstract is to enable the United States Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure. The abstract will not be used for interpreting the scope of the claims.

Emphasis in bold italics added. Thus, the abstract must be amended so as to not exceed the 150 word limit. Correction is required.

Claim Objections

Claim 1 is objected to because of the following informalities:

The claim(s) should be reworded in idiomatic English and/or conformance with standard patent claim language. For example, the following should be amended or changed:

(i) With regard to claim 1 (line 3), the "dot" after the word wavelength, should be replaced by the symbol for "wavelength," i.e., -- λ --.

(ii) With regard to claim 1 (line 26), the "dot" after the number "0.15" should be replaced by the symbol for "wavelength," i.e., -- λ --.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishiuchi et al. (US 5,764,619).

As per claim 1, Nishiuchi et al. (US 5,764,619) discloses a multi-stack optical data storage medium (e.g., see, by mere example only, the embodiment associated with FIG. 20, col. 47, l. 35-col. 48, l. 67) for recording using a focused radiation beam (7) having a wavelength λ and entering through an entrance face (bottom side of FIG. 20) of the medium during recording, the multi-stack optical data storage medium comprising: a first substrate (43) having on a side thereof: a first L0 guide groove formed therein, and a first recording stack (44) L_0, comprising a recordable type L_0 recording layer (206) (see FIG. 20), the L_0 recording layer (206) having a thickness d_{L0G} in the groove (e.g., see col. 47, ll. 49-50) and a thickness d_{L0L} adjacent the groove (e.g., see col. 47, ll. 49-50), and a first reflective layer (204) present between the L_0 recording layer (206) and the first substrate (43); a second substrate (41) having, on a side thereof: a second L_1 guide groove formed therein, and a second recording stack (42) L_1 comprising a recordable type L_1 recording layer (202), the L_1 recording layer (202) having a thickness d_{L1G} (e.g., see col. 47, l. 64) in the groove and a thickness d_{L1L} (e.g., see col. 47, l. 64) adjacent the groove, said second recording stack (42) being present at a position closer to the entrance face (bottom surface of medium as seen in FIG. 20) than the L_0 recording stack (44) (see FIG. 20); and a transparent spacer layer (45) sandwiched between the recording stacks (42, 44), said transparent spacer layer (45) having a thickness substantially larger than the depth of focus of the focused radiation beam (in order to focus on stacks (42) and (44) separately, of course), characterized in that the depth of the first L_0 guide groove (e.g., see col. 47, ll. 46-47) is smaller than 0.15λ (e.g., see col. 48, l. 29), the recordable type L_0 and L_1 recording layers comprise an

organic dye (e.g., see col. 14, l. 36 - col. 15, l. 12, which includes, "[a]s the recording layer for use as the information layer . . . an ***organic*** material, such as a coloring matter . . . [wherein as] the ***organic*** coloring matter, a leuco ***dye***, such as triphenylmethane or the like may be employed." Emphasis added. See in particular, col. 14, ll. 41-42, 49-50 and 64-65), and the thickness d_{L0L} of the L0 recording layer adjacent the groove is substantially equal to or larger than the thickness d_{L1G} of the L1 recording layer in the groove (cf., e.g., col. 47, l. 64 and l. 50).

As per claim 2, wherein d_{L0G} is substantially equal to or larger than $2d_{L1L}$ (cf., e.g., col. 47, l. 64 and l. 50).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiuchi et al. (US 5,764,619) in view of Muramatsu et al. (EP 1 067 535 A2).

See the description of Nishiuchi et al. (US 5,764,619), *supra.*

Additionally, as per claim 5, Nishiuchi et al. (US 5,764,619) further discloses wherein a dielectric layer (e.g., 207) is present at a side of the L_0 recording layer (206) opposite from the side where the first reflective layer (204) is present.

Additionally, as per claim 6, Nishiuchi et al. (US 5,764,619) further discloses wherein the dielectric layer (207) has a thickness in the range of 5 nm-120 nm (e.g., see col. 47, l. 65).

As per claim 4, Nishiuchi et al. (US 5,764,619) does not expressly disclose wherein d_{L1G} is larger than d_{L1L}.

As per claim 7, Nishiuchi et al. (US 5,764,619) does not expressly disclose wherein a second reflective layer comprising a metal is present at a side of the L_0 recording layer opposite from the side where a first reflective layer is present.

Muramatsu et al. (EP 1 067 535 A2), however, discloses an analogous multi-stack optical data storage medium for recording having two recording stacks, wherein an L_1 recording layer (2) has a thickness d_{L1G} (e.g., see paragraph [0040]) in the groove and a thickness d_{L1L} (e.g., see paragraph [0041]) adjacent the groove, wherein d_{L1G} is larger than d_{L1L} (e.g., see paragraph [0040]-[0041])).

Additionally, as per claim 7, Muramatsu et al. (EP 1 067 535 A2) discloses wherein a second reflective layer (3) comprising a metal (Au (gold), ***as per claim 9***) is present at a side of the L_0 recording layer opposite from the side where a first reflective layer (6) is present (e.g., see FIG. 2 and paragraph [0018]).

Given the express teachings and motivations, as espoused by Muramatsu et al. (EP 1 067 535 A2), it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide land and groove thickness recording layers, as set forth in claim 4 and disc structure as per claim 7, to the disc of Nishiuchi et al. (US 5,764,619).

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide land and groove thickness recording layers, as set forth in claim 4 and disc structure as per claim 7, to the disc of Nishiuchi et al. (US 5,764,619) in order to provide information

reproduction that can be performed appropriately at higher recording densities associated with DVD disc formats (e.g., see, *inter alia*, paragraphs [0004-0011].

As per claim 8, although Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), remains silent to wherein the second reflective layer has a thickness in the range of 5 nm -15 nm, such second reflective layer thickness used with the type of optical disc disclosed by Muramatsu et al. (EP 1 067 535 A2) and/or Nishiuchi et al. (US 5,764,619) are well known.

That is, given the teachings of Muramatsu et al. (EP 1 067 535 A2) and Nishiuchi et al. (US 5,764,619), as a whole, and given the general knowledge of one having ordinary skill in the art, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the second reflective layer thickness of Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), as being in a range of 5 nm -15 nm.

The rationale is as follows: one of ordinary skill in the art would have been motivated to provide the second reflective layer thickness of Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), as being in a range of 5 nm -15 nm since such range thickness of translucent metallic layers are conducive to light transmission and reflection as workable ranges - wherein light must pass to access the "upper" recording layer, have to be sufficiently thin to be translucent, allowing light to pass through, while also not being too thin, in order to prevent pinholes from being formed in the metallic layer,-thus material diffusion, etc. Such a concept of thin ranged second reflection layers is well known to the average artisan when faced with such a particular choice of ranges for layer thickness.

The claimed thickness of the second reflection layer, absent any unexpected results, given such a teaching espoused by Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), would indeed cause one having ordinary skill in the art to find a workable range of particular values for such a desired thin film translucent metallic layer, thus verifying the expected light transmissive/reflective characteristics based on translucent metallic layer thickness.

The Examiner finds this situation analogous to the optimization of a range or other variable within the claims that flows from the "normal desire of scientists or artisans to improve upon what is already generally known." *In re Peterson*, 315 F.3d 1325, 1330 (Fed. Cir. 2003) (determining where in a disclosed set of percentage ranges the optimum combination of percentages lies is *prima facie* obvious). In *In re Aller*, 220 F.2d 454, 456 (C.C.P.A. 1955), it was held that the discovery of an optimum value of a variable in a known process is usually obvious. See also *In re Boesch*, 617 F.2d 272, 276 (C.C.P.A. 1980) ("[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art."); *In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997) ("'[I]t is not inventive to discover the optimum or workable ranges by routine experimentation.'" (quoting *Aller*, 220 F.2d at 456)); *In re Kulling*, 897 F.2d 1147, 1149 (Fed. Cir. 1990) (finding no clear error in Board of Patent Appeals and Interferences' conclusion that the amount of eluent to be used in a washing sequence was a matter of routine optimization known in the pertinent prior art and therefore obvious). Based on the teachings of Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), and the skill of one having ordinary skill in the art, the

Examiner maintains that the experimentation needed, then, to arrive at the particular claimed ranges in the instant application, is "nothing more than routine" application of a well-known problem-solving strategy, *Merck & Co., Inc. v. Biocraft Labs., Inc.*, 874 F.2d 804, 809 (Fed. Cir. 1989), and the Examiner concludes this is, "the work of a skilled [artisan], not of an inventor." *DyStar*, 464 F.3d at 1371; see also *In re Luck*, 476 F.2d 650, 652-53 (C.C.P.A. 1973) (use of routine testing to identify optimum amounts of silane to be employed in a lamp coating, without establishing a critical upper limit or demonstrating any unexpected result, lies within the ambit of the ordinary skill in the art); *In re Esterhoy*, 440 F.2d 1386, 1389 (C.C.P.A. 1971) ("One skilled in the art would thus manifestly operate the Switzer et al. process under conditions most desirable for maximum and efficient concentration of the acid. The conditions recited in the claims appear to us to be only optimum and easily ascertained by routine experimentation."); *In re Swentzel*, 219 F.2d 216, 219 (C.C.P.A. 1955) ("It may well be that the size represents the largest particles suitable for appellant's purpose, but the determination of that desired size under the present circumstances involves nothing more than routine experimentation and exercise of the judgment of one skilled in the art."); *In re Swain*, 156 F.2d 246, 247-48 (C.C.P.A. 1946) ("In the absence of a proper showing of an unexpected and superior result over the disclosure of the prior art, no invention is involved in a result obtained by experimentation."); "the prior art would have suggested to one of ordinary skill in the art that this process should be carried out and would have a reasonable likelihood of success." *Merck*, 874 F.2d at 809 (quoting *In re Dow Chem. Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988)). For these reasons, the Examiner is of the opinion, based on a preponderance of the evidence, in conjunction with analogous case law, a skilled artisan would have had a reasonable expectation of success with the modification of thin

layer reflectivity thickness to arrive at the thickness range as prescribed by claim 8. Moreover, it is worth noting that Muramatsu et al. (EP 1 067 535 A2) as applied to Nishiuchi et al. (US 5,764,619), certainly does not teach away from the claimed ranges. Thus, it is the opinion of the Examiner that a requisite *prima facie* case of obviousness has been established with regard to the claims.

Response to Arguments

Applicant's arguments filed July 17, 2007 have been fully considered but they are not persuasive.

The Applicant opines at page 9 bridging page 10 of the response filed on July 17, 2007:

> Applicants believe that a person skilled in the art starting from Nishiuchi et al. and confronted with the problem of how to achieve an optical data storage medium of the type mention in the opening paragraph of the Substitute Specification, which has a reflection level of the L_0 stack and a modulation of recorded marks in the recording layer of the L_0 recording stack which is compatible with the dual-layer DVED-ROM [sic, DVD-ROM] specification, would not consider changing the phase change material layer to an organic dye layer because this problem is nowhere addressed in Nishiuchi et al.

The Examiner respectfully disagrees based on the facts as evidenced by Nishiuchi et al.

Pertaining to the claims rejected under 35 U.S.C. § 102 as being anticipated by the disclosure of Nishiuchi et al. the following should be noted. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. *RCA Corp. v. Applied Digital Data Systems, Inc.*,

730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); *cert. dismissed*, 468 U.S. 1228 (1984); *W.L. Gore and Associates, Inc. v. Garlock, Inc.*, 72.1 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984).

The Examiner, as clearly articulated in the rejection, *supra*, has set forth a one-to-one correspondence with each and every element of the *claimed* invention. More concretely, as recited MPEP§2106:

> Office personnel are to give claims their ***broadest reasonable interpretation*** in light of the supporting disclosure. *In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). ***Limitations appearing in the specification but not recited in the claim are not read into the claim***. *In re Prater*, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow. . . . The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed. . . . An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process."). [Emphasis in bold italics added].

Moreover, one must also bear in mind that limitations contained within Applicant's arguments cannot be read into the claims for the purpose of avoiding prior art. *In re Sporck*, 386 F.2d 924, 155 USPQ 687 (CCPA 1968).

As set forth in the MPEP§ 706, "the standard to be applied in all cases is the "preponderance of the evidence" test. In other words, an examiner should reject a claim if, in view of the prior art and evidence of record, it is more likely than not that the claim is unpatentable." Clearly, the Examiner has established that one of ordinary skill in the art would *reasonably* construe the one-to-one correspondence with each and every element of the *claimed*

invention, in the manner set forth in the rejection, *supra,* by at least the *preponderance* of the evidence

Turning now to claim 1, Nishiuchi et al. (US 5,764,619) discloses a multi-stack optical data storage medium (e.g., see, by mere example only, the embodiment associated with FIG. 20, col. 47, l. 35-col. 48, l. 67). The recordable type L_0 and L_1 recording layers comprise an organic dye (e.g., see col. 14, l. 36 - col. 15, l. 12, which includes, "[a]s the recording layer for use as the information layer . . . an ***organic*** material, such as a coloring matter . . . [wherein as] the ***organic*** coloring matter, a leuco ***dye***, such as triphenylmethane or the like may be employed." Emphasis added. See in particular, col. 14, ll. 41-42, 49-50 and 64-65).

Clearly although Nishiuchi et al. discloses other types of uses for the disclosed optical recording medium, such as phase-change, he also discloses alternate types including single use recordable discs which use an *organic dye*.

The Applicant also comments at page 10 of the Response:

> The Muramatsu et al. patent discloses an information recording medium, in which the depth d2 (corresponding to the depth of the first L_0 guide groove) is 140 nm (paragraph [0055]).
>
> Applicants therefore submit that while Muramatsu et al. may disclose some of the features of the invention as claimed in claims 4-9, Muramatsu et al. finds it necessary to have a first groove depth of 140 nm, which is greater than 0.15λ as claimed in, for example, claim 1.

The Examiner maintains that Nishiuchi et al. (US 5,764,619) already discloses such a groove depth teaching. That is, Nishiuchi et al. (US 5,764,619) discloses a multi-stack optical data storage medium (e.g., see, by mere example only, the embodiment associated with FIG. 20,

col. 47, l. 35-col. 48, l. 67) for recording using a focused radiation beam (7) having a wavelength λ and entering through an entrance face (bottom side of FIG. 20) of the medium during recording, characterized in that the depth of the first L_0 guide groove (e.g., see col. 47, ll. 46-47) is smaller than 0.15λ (e.g., see col. 48, l. 29).

As per claim 7, Nishiuchi et al. (US 5,764,619) does not expressly disclose wherein a second reflective layer comprising a metal is present at a side of the L_0 recording layer opposite from the side where a first reflective layer is present.

Muramatsu et al. (EP 1 067 535 A2), however, discloses an analogous multi-stack optical data storage medium for recording having two recording stacks, wherein an L_1 recording layer (2) has a thickness d_{L1G} (e.g., see paragraph [0040]) in the groove and a thickness d_{L1L} (e.g., see paragraph [0041]) adjacent the groove, wherein d_{L1G} is larger than d_{L1L} (e.g., see paragraph [0040]-[0041])).

Additionally, as per claim 7, Muramatsu et al. (EP 1 067 535 A2) discloses wherein a second reflective layer (3) comprising a metal (Au (gold), ***as per claim 9***) is present at a side of the L_0 recording layer opposite from the side where a first reflective layer (6) is present (e.g., see FIG. 2 and paragraph [0018]).

Given the express teachings and motivations, as espoused by Muramatsu et al. (EP 1 067 535 A2), it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide land and groove thickness recording layers, as set forth in claim 4 and disc structure as per claim 7, to the disc of Nishiuchi et al. (US 5,764,619) in order to provide information reproduction that can be performed appropriately at higher recording densities associated with DVD disc formats (e.g., see, *inter alia*, paragraphs [0004-0011].

Allowable Subject Matter

Claim 10 is tentatively objected to as being dependent upon a rejected base claim, but, pending an updated search, amendments or arguments presented by the Applicant and considered by the Examiner in reply to this office communication, would be favorably considered if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (571) 272-7577. The examiner can normally be reached on Monday-Friday (7:30AM-6:00PM).

Approved
LJK
8-22-07

REPLACEMENT SHEET

2/4

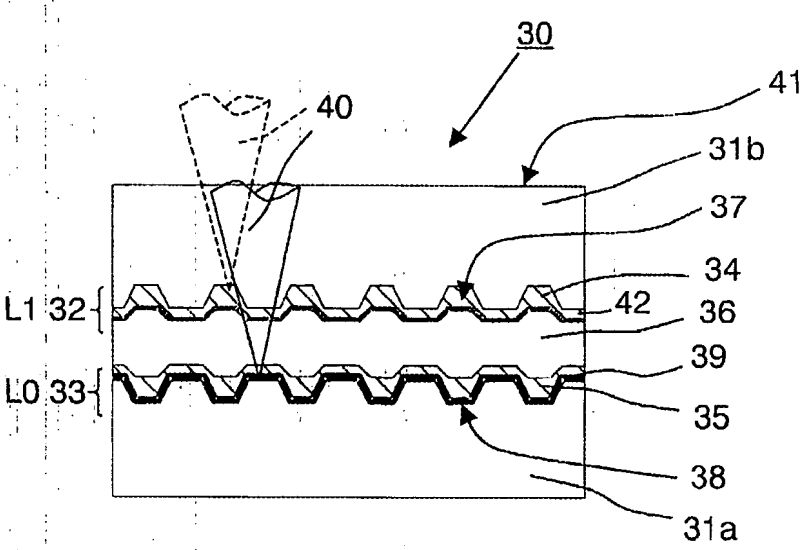

FIG.3

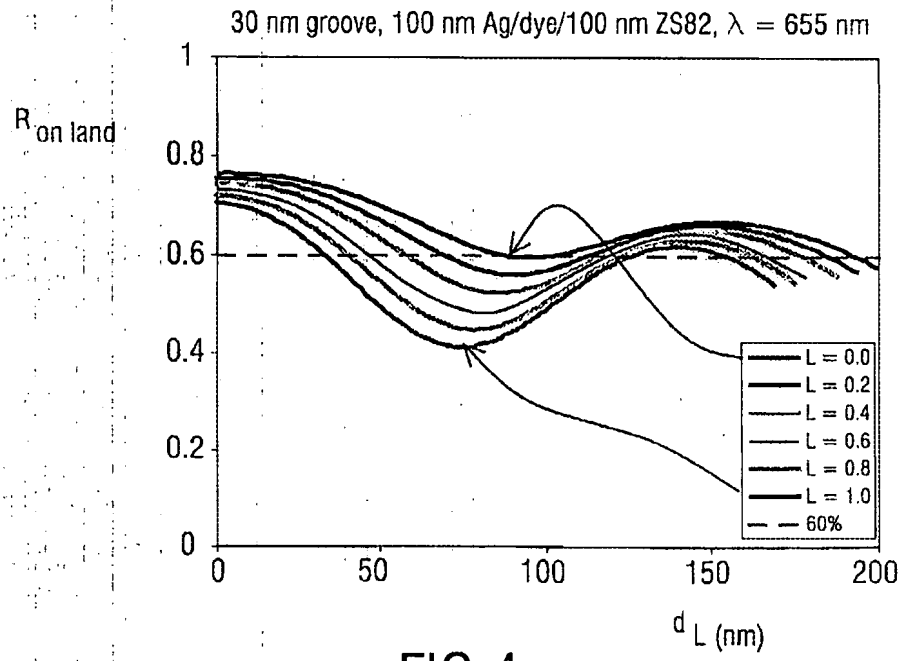

FIG.4a

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William R. Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

William J. Klimowicz
Primary Examiner
Art Unit 2627

WJK